QUIVIRA MINING COMPANY

SECTION 35 MINING OPERATION

SITE ASSESSMENT

JUNE 30, 1994

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(continued)

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SITE ASSESSMENT - SECTION 35 MINING OPERATION

Quivira Mining Company's Section 35 mining operation site assessment has been organized to correspond with Section 5 of the New Mexico Mining Act. The statutory requirements follow the section describing the general environmental setting of the mining operation.

ENVIRONMENTAL SETTING

Geography

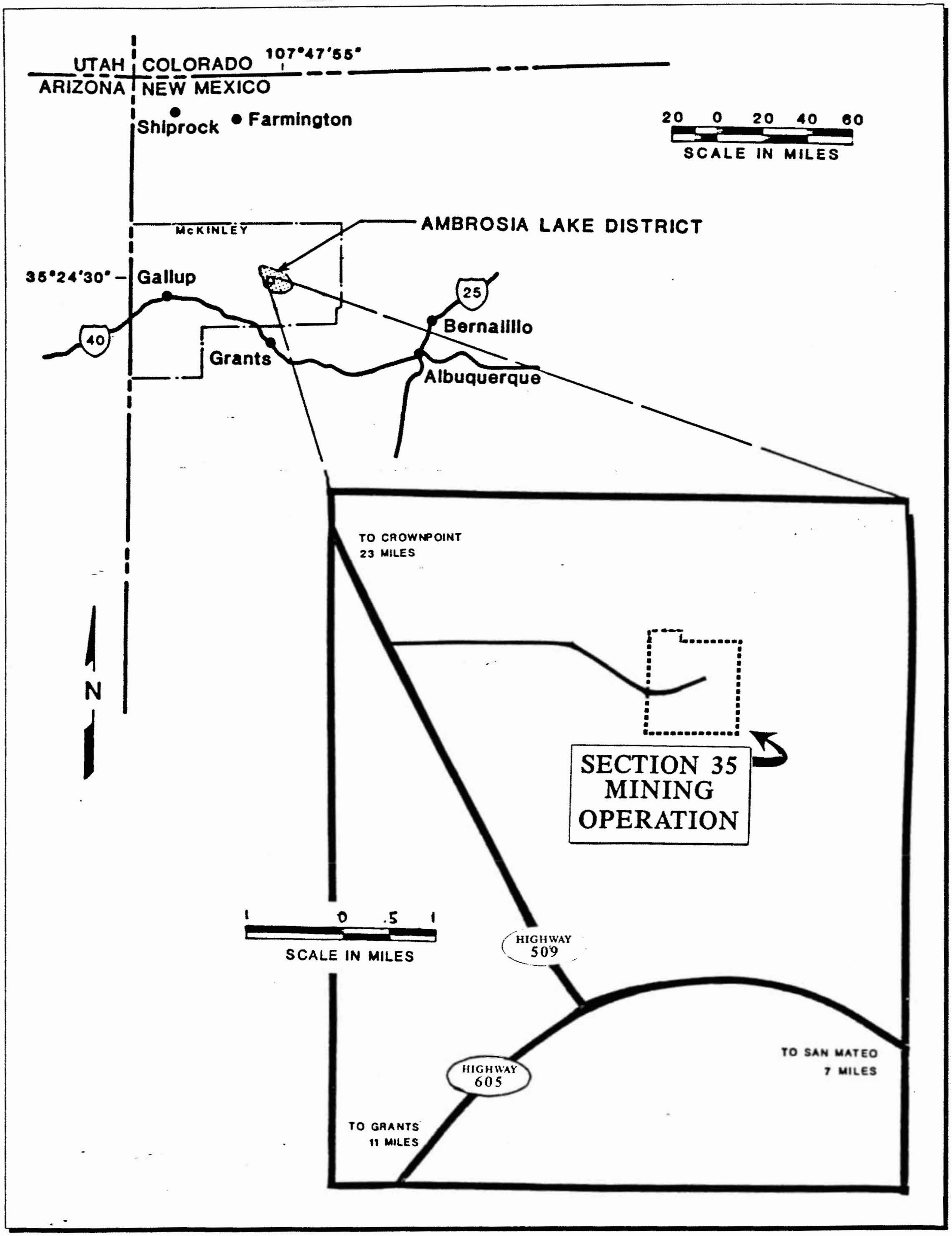
Quivira Mining Company's Section 35 mine is located in the Ambrosia Lake mining district in the southeastern part of McKinley County, New Mexico (Figure 1). The specific location of the mine site is Section 35, T14N, R9W.

The Ambrosia Lake mining district, named for an almost perpetually dry lake bed (approximately 20 miles north of the town of Grants, New Mexico) is roughly limited by the Ambrosia Lake dome on the north, Grants on the south, the villages of San Mateo on the east and Prewitt on the west. The district is approximately 22 miles long and 6-10 miles wide situated in an elongated strike valley (approximately 7020 feet elevation MSL) which has been eroded into the lower Mancos shale formation. The valley strikes northwest and is bounded on the south by the rim formed by the outcrop of the Dakota sandstone and on the north by the high sandstone cliffs and steep shale slopes of the Mesaverde outcrop. The surface of the valley is generally flat or gently rolling, broken only by an occasional dry wash or outcrop of thin Tres Hermanos sandstone or Mancos shale.

General Site Information

Uranium exploration of the Section 35 area commenced as early as 1957 with mine development initiated in 1969. With subsequent completion of the mine shaft and ore bodies, the first ore production from the mine occurred in September 1971. To date, the Section 35 mine has produced over 2.5 million tons of ore. The Section 35 mine is currently inactive due to the depressed condition of the uranium market. However, areas of the mine are available to old stope leaching methods; but no mining activity has occurred at the mine site since September 1991 when mine dewatering was discontinued.

FIGURE 1
SECTION 35 MINING OPERATION LOCATION



The ore in the mine is located in the Westwater Canyon unit of the Morrison formation. The ore is a grayish colored sandstone averaging approximately 0.15 percent U_30_8 with occasional high values up to 2 percent. Varying amounts of impurity substances are present in the ore. Only molybdenum exists in sufficient quantity to make recovery a necessary activity as an additional step in the milling.

METEOROLOGY

General

The Section 35 mine is located in the climatological subdivision of New Mexico designated "Southwestern Mountains", an area characterized by low precipitation, abundant sunshine, low relative humidity, and moderate temperatures with large diurnal and annual ranges. The regional climate is classified as semi-arid, continental (BSw, or Steepe with a winter dry season, in the Koppen-Geiger system).

The mine site is situated in a broad valley at an elevation of 7,000 feet with San Mateo Mesa rising to 8000 feet to the northeast and Mesa Montanosa rising to 7500 feet to the southwest. These topographical features create a significant blocking effect to synoptic scale influences and modify the wind regime in the area. Other meteorological parameters, however, would not be expected to differ greatly from those found at other stations of similar altitude in the region.

Wind Speed and Wind Direction

The topography in the area suggests a wind regime dominated by two major influences: night-time drainage of cold air from the high mesas, and channeling of synoptic winds through the northwest-southeast oriented valley.

Meteorological data from an NMEID operated site, approximately 1.5 miles west of the Section 35 mining operation were collected between June 1978 and April 1979 and represent a 72% recovery of the ten and one-half months of data monitored. The predominant wind directions are westerly and north-northwesterly, which agree well with expectations based upon terrain influences. The average hourly wind speed during this period was 5.8 mph, the maximum hourly speed was 29.5 mph, and calms were rarely recorded.

Temperature and Relative Humidity

The Ambrosia Lake area exhibits a large diurnal range in temperature which is conducive to nighttime inversion formations. Ten and one-half months of measurements at the NMEID Phillips monitoring site show a mean daily minimum of 40.9°F, and a mean daily maximum of 65.2°F. The mean daily average of 53.5°F agrees reasonably well with the long-term (1962-1974) average of 49.2°F measured at the Floyd Lee Ranch near San Mateo.

Relative humidity in the area is estimated to range from an average of 65 percent at sunrise to roughly 30 percent by mid-afternoon, often dropping to less than 15 percent. Relative humidity during the summer months are expectedly higher due to the seasonal influx of moisture in July and August (the thunderstorm season).

Precipitation

Most of the precipitation in the area occurs during the July-August thunderstorm season, although there is considerable monthly and annual variation in total rainfall. Long-term precipitation measurements made at San Mateo (Floyd Lee Ranch) and three other regional stations indicated that the long-term annual average for San Mateo was 8.83 inches with a maximum of 13.55 inches in 1956. August was the wettest month with the average of 2.13 inches, and a maximum of 4.38 inches in 1948. Most of the winter precipitation in the vicinity of the Section 35 mining operation falls as snow.

Insolation

Central New Mexico receives approximately 75 percent of possible winter sunshine and 80 percent of possible summer sunshine. The annual average for Albuquerque is 77 percent, and similar figures can be expected in vicinity of the Section 35 mining operation.

Storms and Severe Weather

Thunderstorms are relatively frequent in the area during the summer months, occurring an average of 50 days per year, with two to four days per year reporting hail. Extreme winds may occur as a result of these thunderstorms and also under certain pressure gradient configurations.

Rainfall in the area is generally associated with localized thunderstorms. Maximum precipitation of long duration is associated with the infrequent occurrence of tropical cyclones from the Gulf of Mexico and the Gulf of California.

NMSA 69-36-5.B.1

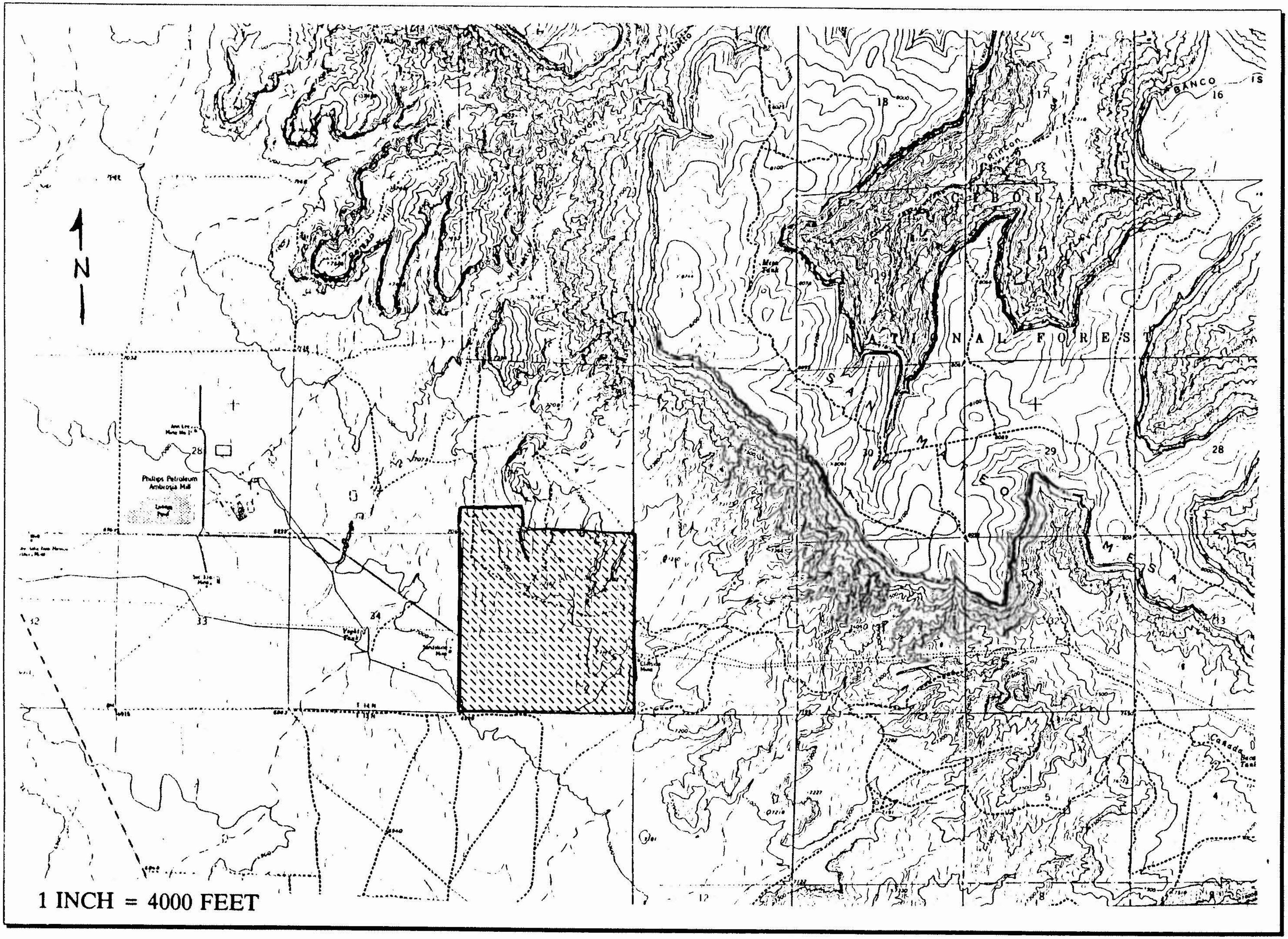
Identification of a proposed permit area for the mining operation

Quivira Mining Company's proposed permit area for the Section 35 mining operation is tentatively planned to comprise the entire land area of section 35, T14N, R9W. Figure 2 contains a copy of a portion of an United States Geological Survey quadrangle map identifying Quivira's proposed permit area.

The purpose of proposing the entire section is based on the fact that the ore bodies in the Ambrosia Lake area are generally located in narrow, sinusoidal, horizontal deposits that may weave several miles. By permitting the entire section will ensure the permit area encompasses potential ore zones and will enable these reserves to be mined in an economical and efficient manner.

FIGURE 2

SECTION 35 MINING OPERATION - PROPOSED PERMIT AREA



NMSA 69-36-5.B.2

A description of the location and quality of surface and ground water at or adjacent to the mining operation and an analysis of the mining operation's impact on that surface and ground water

HYDROLOGY

Surface Water

The surface hydrology is characterized by water worn arroyos cut on the surface of the formations described within the geological section. Material eroded by wind and water originated from such out-crops and has been deposited in narrow valleys trending to lower topographical elevations. This surficial deposit of alluvial material varies from zero to approximately 25 feet in depth in the area of the Section 35 mining operation. Since the alluvial material is generally fine grained with low permeability, water flow in the alluvium is relatively slow. From the earliest records, this alluvial formation was essentially dry prior to the commencement of mining activities.

Surface water runoff resulting from excessive rainfall or snow melt collects in ephemeral drainages and flows generally in a southwestwardly direction towards a well defined water course, the Arroyo del Puerto. However, due to the quantity of precipitation expected for the area, continuous flow from the Section 35 mine site to the Arroyo del Puerto is not expected to occur.

When dewatering activities resume, all water will be pumped either to a NRC regulated facility located approximately four miles west of the mine site and/or under New Mexico Environment Department Discharge Plan 67.

Groundwater

Since mining activities ordinarily did not penetrate below the Westwater formation, the assessment of groundwater will be limited to the Bluff, Recapture, Westwater, and the various aquifer units which are present from the ground surface to the ore body situated within the Westwater.

The Bluff sandstone is not widely used as an aquifer in the Ambrosia Lake area because of low yield and poor quality. No pre-mining groundwater data in the vicinity of the mining operation was available for the Bluff sandstone.

The Recapture Member is composed of intra-stratified siltstone, shale and fine sandstone. Overall, the unit is considered to be an aquitard. Leakage of groundwater between the Bluff and the Westwater appears to be negligible as a result of the low permeability of the Recapture. In the Ambrosia Lake area, the formation is approximately 100 feet thick. Most shafts in the area commonly penetrate about 50 feet into this unit.

The Westwater Canyon Member is predominantly a sandstone which contains the uranium ore body and a significant groundwater aquifer. Clay beds within the formation have fair lateral continuity which likely affect local groundwater movement and drainage from the aquifer. Early data showed that the Westwater natural potentiometric surface was between 6550 and 6600 elevation; indicating that the Westwater was completely saturated prior to mining activities in the area. Water quality away from ore zone was generally good where the aquifer was less than 1000 feet deep. Basinward, or northward, the Westwater becomes more brackish in quality. The formation is approximately 200 feet thick in the Ambrosia Lake area.

The Brushy Basin unit conforms and intertongues with the upper Westwater. It consists of bentonitic mudstones and some thin sandstone lenses; and acts as a good aquitard overlying the Westwater. Due to the plasticity and expansive nature of the clays, penetrations in the unit will quickly seal thus preventing interaquifer communication.

The Dakota sandstone was deposited over an erosional surface developed on the Brushy Basin formation. The unit is predominantly a fine-grained, clean sandstone with fair to good permeability. Historical data indicated that the potentiometric surface of the Dakota was close to or slightly above the Westwater formation, approximately 6600 feet. Water quality in the Dakota is variable. The formation is approximately 80 feet thick in the Ambrosia Lake area.

The Tres Hermanos sandstone lenses within the Mancos shale are fine-grained and do not yield much water unless fractured. Very little data is available on the water quality of the Tres Hermanos sandstone units prior to mining activity in the area.

Previous studies and investigations conducted in the Ambrosia Lake area found that the alluvium did not contain much water north of McKinley county line. All water in the alluvium north of McKinley county line was the result of uranium mining and milling activities which pumped groundwater from the Westwater Canyon Member of the Morrison Formation to the surface where it is discharged to the alluvium.

It is not feasible to utilize the alluvium as a water source due to sparse precipitation and runoff quantities. No records of water in the alluvium were made prior to mining activity. One well in the alluvial material three years after mining and milling began indicated only very small amounts of saturated material at the base of the alluvium which appears attributable to early mining and milling activities in the Ambrosia Lake valley.

With the exception of the alluvium, groundwater movement in all these formations is downdip to the north and northeast to areas of lower elevation and lower potentiometric head. The gradient in these formations is not steep, implying very slow groundwater movement and discharge at some distant point which did not allow easy aquifer drainage.

Hydrologic Effects Related to Mining

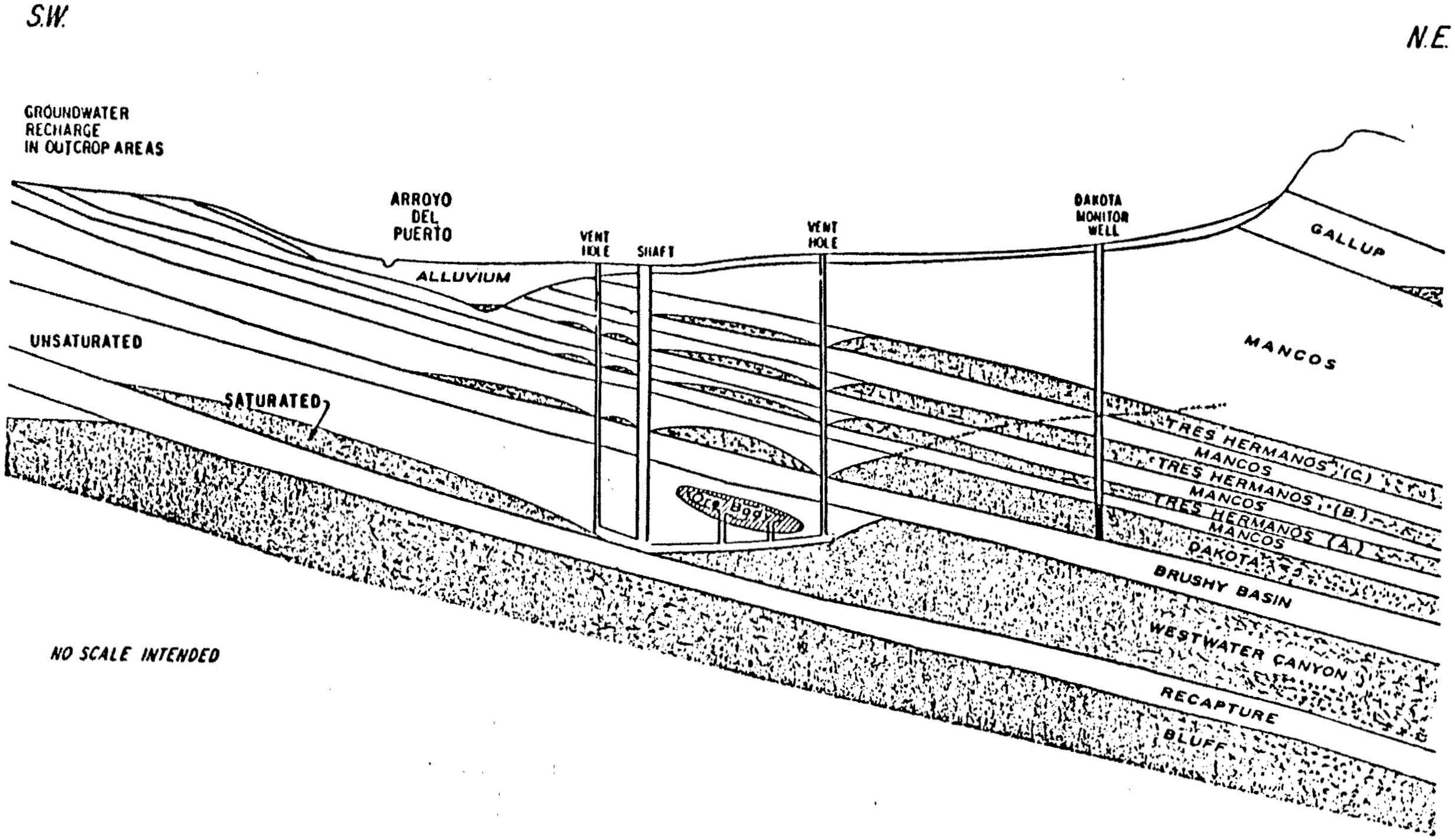
By 1957, several mining companies were sinking shafts and testing the Westwater formation to determine pumping requirements for mining uranium in the Ambrosia Lake area. Much of the early pumping discharge was placed into tributaries of the Arroyo del Puerto resulting in the creation of a perennial stream condition across the alluvial valley. The discharge was good quality water, primarily from the Westwater formation. Where shafts encountered significant amounts of water in upper formations, such as the Dakota, these aquifers were also pumped for a period of time.

Before mine development could proceed, ventilation holes had to be constructed near the shaft and subsequently throughout the mine area. The Section 35 mining operation contains nine (9) ventilation holes. The ventilation holes acted as additional drainage points where any water bearing zone encountered from the surface to the mine workings would drain into the ventilation holes and eventually pumped from the mine. The mine dewatering that occurred throughout the entire Ambrosia Lake area has created a major sink or depression in all aquifers above the Westwater. The entire area can be viewed as a groundwater depression or trough, not only in the Westwater because of pumping, but also in the shallower aquifers because of drainage by ventilation holes.

As a result of over 35 years of mining activity in the area, the drainage from the Dakota and the Tres Hermanos sandstones has essentially dewatered these units in the mining area. Figure 3 contains a generalized cross section depicting the aquifer response to depressuring and dewatering due to mining.

Due to the regional geologic dip to the north-northeast, the Westwater Canyon member to the south of the mining area is largely drained with a depression trough centered around the mines as a result of mine dewatering throughout the Ambrosia Lake area. Subsequently, mine drainage was heavier and more prolonged from the northern sections of the underground workings.

With the discontinuance of conventional mining operations within the Ambrosia Lake area, groundwater has been recovering in some areas of the mining district. Dewatering of the Section 35 mining operation ceased in September 1991. This has resulted in subsequent rising of water levels within the mine area.



NE-SW CROSS-SECTION THROUGH AMBROSIA LAKE AREA - GENERALIZED MINING CONDITIONS

FIGURE 3

NMSA 69-36-5.B.3

A description of the geologic regime beneath and adjacent to the mining operation

GEOLOGY

Stratigraphy

Sedimentary rocks exposed in the area range in geologic age from Pennsylvanian to Cretaceous and rest on the Precambrian core of the Zuni uplift. Associated intrusive and extrusive rocks from the Mt. Taylor and Zuni volcanic fields of Tertiary and Quaternary ages cap mesas and fill valleys. The regional dip is slight (3°-5°) to the northeast into the San Juan Basin. A typical geologic column for the Ambrosia Lake area is presented in Figure 4.

Rocks of Cretaceous age are the only materials exposed within the immediate area of the Section 35 mining operation. Strata consists of thick sequences of marine and continental deposits of shale and sandstone that intertongue and change lithology abruptly.

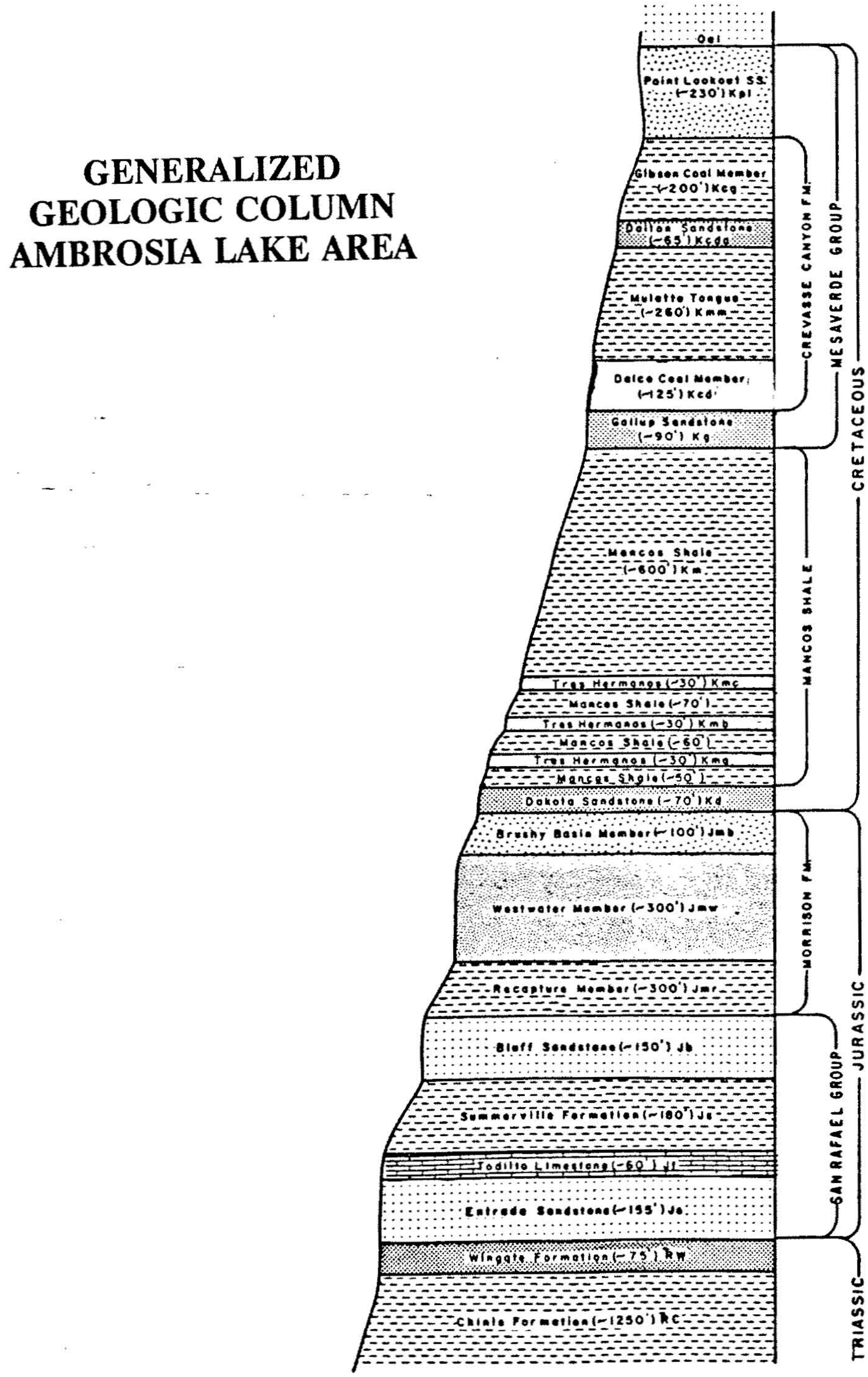
Triassic, Jurassic, Permian and Pennsylvanian rocks are exposed southwest of the mine site area where the more resistant beds form a series of ridges separated by long dip slope valleys.

Both formations of the Permian Age, the Glorieta sandstone and the San Andres limestone, outcrop in southeast McKinley County. They are terminated in the north by depositional thinning and later truncation.

The Glorieta is a well-sorted, medium-grained, white to buff, quartz sandstone with thick beds of siltstone. Its outcrops have sharply defined, alternating crossbedded and evenly bedded units. The upper part of the formation is tightly cemented and resistant to erosion; the lower part is often soft and friable.

The San Andres limestone conformably overlies the Glorieta sandstone. The lower part of

FIGURE 4



GENERALIZED
GEOLOGIC COLUMN
AMBROSIA LAKE AREA
Qal
Point Lookout SS. (~230') Kpl
Gibson Coal Member (~200') Kcg
Dalton Sandstone (~65') Kcda
Mulatto Tongue (~260') Kmm
Dalco Coal Member (~125') Kcd
Gallup Sandstone (~90') Kg
Mancos Shale (~600') Km
Tres Hermanos (~30') Kmc
Mancos Shale (~70')
Tres Hermanos (~30') Kmb
Mancos Shale (~60')
Tres Hermanos (~30') Kma
Mancos Shale (~50')
Dakota Sandstone (~70') Kd
Brushy Basin Member (~100') Jmb
Westwater Member (~300') Jmw
Recapture Member (~300') Jmr
Bluff Sandstone (~150') Jb
Summerville Formation (~180') Js
Todilto Limestone (~60') Jt
Entrada Sandstone (~155') Je
Wingate Formation (~75') ŘW
Chinle Formation (~1250') ŘC
CREVASSE CANYON FM.
MESAVERDE GROUP
CRETACEOUS
MANCOS SHALE
MORRISON FM.
SAN RAFAEL GROUP
JURASSIC
TRIASSIC

this formation is a bluish-gray limestone with interbedded sandstone. A light gray to yellowish buff sandstone most commonly overlies the lower unit. The upper third is a grayish-pink, cherty, fossiliferous or sandy limestone or calcareous sandstone. The limestone units are massive.

The Chinle Formation of Triassic age unconformably overlies the San Andres limestone. The lower unit of this formation is purple to white, silty, thick bedded sandstone chocolate-brown to purple siltstone and mudstone. Beds of coarse grained to conglomeratic sandstone lay near the base of the unit with some petrified wood near the top.

The middle unit is a yellow-gray sandstone with parties of purple to gray siltstone and mudstone. At places a pebble to cobble conglomerate with fragments of petrified wood is present at the base of the unit.

The upper unit is predominately a red, brown, and purple siltstone and mudstone with thin sandstone lenses and thin layers of modular limestone. The thickness of the Chinle Formation ranges from 1250 feet to 1625 feet.

The San Rafael group of Jurassic age in this area includes the Entrada sandstone, Todilto Limestone, Summerville Formations and Bluff Sandstone.

The Entrada sandstone uncomformably overlies the Wingate sandstone. It is massive reddish-orange to pink, medium to fine grained, quartz sandstone with conspicuous cross-bedding. Its thickness varies from 100 to 300 feet.

The Todilto Limestone conformably overlies the Entrada sandstone. This member is a dark gray to greenish, fine grained, thin bedded and platy limestone. It is often strongly fetid where freshly fractured. There is some gypsum in the cement and in the lenticular masses or thick partings of clay or siltstone within the limestone. Average thickness for this member is 12 to 15 feet.

The Summerville Formation is gradational with the underlying Todilto Limestone and overlying Bluff sandstone. It is a red-brown to light green and white, fine, interstratified sandstone, siltstone and shale. It averages from 75 feet to 200 feet in thickness.

The Bluff Sandstone is a gray to buff, fine grained, massive crossbedded, quartz sandstone. It is the only member of the San Rafael group that contains connate water, however, it is not used as a water supply because of its insufficiency.

The Recapture shale formation overlies the Bluff Sandstone. This unit is composed of intra-stratified siltstone, shale, and fine sandstone. The unit is approximately 100 feet thick in the Ambrosia Lake area. Normally, mine shafts in the Ambrosia Lake area were terminated in a sump in this formation.

The Westwater Canyon member of the Morrison formation overlies the Recapture shale. This unit contains the ore horizons of value. Initially, the Westwater Canyon member formation throughout the Ambrosia Lake basin was saturated with water. Conventional mining within this formation required the water to be removed from the mines by pumping to the surface, treated and discharged.

The Brushy Basin shale formation, located above the Westwater formation, is characterized by its plasticity and is considered an expansive clay. Upon puncturing by drilling or similar activity, it has been observed that the clays within the Brushy Basin will swell and refill the drill hole.

The next formation up the stratigraphic column, is the Dakota sandstone. This formation is a significant waterbearing aquifer throughout New Mexico. The water quality varies quite widely but is generally poorer than deeper water-bearing formations.

The Dakota grades upwards into the Mancos shale, which is typically dark grey to black in color. The shale contains several sandstone lenses which, in the Ambrosia Lake area, are identified as the Tres Hermanos sands. These three sandstone lenses are referred to as the A, B, and C, from lowest to highest. They are fine-grained, tight sandstones which do not yield much water to a well. These sandstones cap most of the low lying hills in the Ambrosia Lake area.

In the relatively recent geologic past, an erosional surface developed across the area, cutting down into the Mancos and Tres Hermanos to create a narrow canyon of nearly 100 feet in relief. Following the period of erosion, the canyon was filled by both wind and water transported material until the present day alluvial deposit of 90 to 100 feet of sediment was created in the Ambrosia Lake valley. However, as a result of the Section 35 mining operation being located near the valley edge, alluvium depths in the vicinity of the Section 35 mine site are much less, ranging from no alluvium to approximately 25 feet.

The alluvium is generally a brown, arenaceous clay or shale, occasionally interbedded with light brown angular sandstone gravel less than half an inch in diameter, and/or, silty clay or mudstone with interbedded subrounded to angular quartz and sandstone gravel. There is some weathered sand and shale present. The alluvium has variable thickness and numerous and often indistinct layers within it related to soil profile formation and changing patterns of deposition.

Structural Geology of the Area

Ambrosia Lake is located in the southern part of the San Juan structural basin. This includes the Zuni uplift, which is approximately 55 miles long and 20 miles wide. The sedimentary rocks dip northward at angles of 3°-5° from the central core of the Precambrian rocks of the uplift. Structural relief in the area is at least 5,000 feet.

The Ambrosia Lake area has been subjected to several minor episodes and one major episode of deformation from Morrison time to the present. The first deformation seems to have been semi-contemporaneous with the Morrison sedimentations.

The major deformation of the area is believed to have occurred in Laramide (late Cretaceous-early Tertiary) time and gave rise to the Zuni uplift, San Juan Basin and the Acoma Embayment. It was also during the Laramide orogeny that the principal folds and faults and the northerly regional dip (3°-5°) of the Ambrosia Lake was established. Subsequent erosion is believed to have reduced the uplifted areas to lowlands in Eocene time and ensuing deposition covered much of the area with playa or fluvial deposits. The Mt. Taylor eruptions acquired their present characteristics in late Pliocene time. Continued erosion brought the physiography to its current outlook as late faulting broke the older high level flows in several places.

Also included in the Ambrosia Lake portion of the San Juan Basin is the Ambrosia Lake anticline. This north plunging anticline has caused a series of horsts and grabens along its northeast flank. The west flank dips steeply into the north-south Ambrosia fault.

Geology of Section 35 Mine

The Section 35 mine is located on the eastern extension of the confluence of the middle and south Ambrosia trends. The ore in both trends is contained within the Westwater Canyon member of the Morrison formation, of Jurassic age, which averages 205 feet thick and is a typical arkosic sandstone, interstratified with mudstone. The ore body is situated on the western flank of a northerly plunging syncline, the axis of which is located near the eastern boundary of Section 35. The regional dip of the Westwater Canyon has been steepened from 2°- 3° northeast, common throughout the mining district, to 6° - 10° on Section 35 on post-Dakota folding and faulting.

A series of northerly trending normal faults, creating a graben are located in the central part of the section, flanked by the San Mateo fault system to the east, creating a wide horst on the eastern half of the section. The San Mateo fault displaced the Dakota sandstone approximately 100 feet to the east, adjacent to the Westwater Canyon member. The majority of the interpreted faulting was probably contemporaneous with folding during middle-Tertiary time as associated with the Zuni Mountain uplift.

Most of the ore is characteristic of pre-fault ore bodies offset by normal faults. The ore bodies appear continuous along the general Ambrosia trend for several thousand feet, up to three hundred feet wide, and range from knife edge to over several tens of feet in thickness. These pre-fault ore bodies appear related stratigraphic features such as interbedded mudstone layers, paleo stream channels and scouring. Post-fault ore is suspected adjacent to fault and fracture zones in the central graben area where ore thicknesses exceed seventy feet.

NMSA 69-36-5.B.4

A description of the piles and other accumulations of waste, tailings and other materials and an analysis of their impact on the hydrologic balance, drainages and air quality

DESCRIPTION OF PILES AND OTHER ACCUMULATED WASTE

Section 35 mining operation currently has no active ore piles and other accumulated waste pads at the mine site. The mine site currently consists of mine buildings and associated structures, and mine equipment storage areas. When the mine became inactive in January 1985, all ore accumulated at the surface was transported to the NRC regulated uranium mill located west of the mine site. In addition to this, the waste rock pile was graded as a temporary stabilization technique.

All the areas that were utilized as waste rock storage and ore storage during conventional mining have subsequently been reclaimed by recontouring the area, placing a minimum of one (1) foot of alluvium over the recontoured areas, with these areas then reseeded and mulched.

As a result of Quivira's reclamation efforts at the mining operation in stabilizing and reclaiming its piles and accumulated waste, the mining operation has no impact on the hydrologic balance, drainages and air quality.

NMSA 69-36-5.B.5

An analysis of the mining operations impact on local communities

IMPACT ON LOCAL COMMUNITY

Although the Section 35 mining operation is currently inactive, the discussion of the mining operation's impact on the local communities will encompass the entire life of the mine.

Employment/Population Trends

Since the early uranium discoveries in the Ambrosia Lake area in the 1950's, New Mexico has maintained a dominant position in both the domestic and world uranium reserves. As a result of the uranium industry in the Ambrosia Lake area, McKinley and Cibola counties experienced overall population growth of 102 and 139%, respectively, between 1950 and 1978. Although still a predominantly rural area, urban centers such as Gallup and Grants-Milan have developed as significant regional economic centers with the influx of mining employees and associated trade and service workers.

Uranium mining at Section 35 had its greatest impact in terms of population increases in the Grants-Milan area in northern Cibola County. During the peak of the mining operations at Section 35, over 250 personnel were directly involved with the mining activities.

With the decline in the uranium mining industry in the early 1980's, continued cutbacks in labor occurred until 1985 conventional mining was discontinued due to the depressed uranium market. There is currently no employees assigned to the mining operation,; with only site maintenance activities occurring on an as needed basis.

The closest town to the Section 35 mining operation is San Mateo (unincorporated) which is approximately 12 miles to the southeast. The nearest resident to the mining operation is located approximately 3.5 miles to the south-southwest; and approximately 50 people live within a ten mile radius of the mining operation.

Tourism

Recreational visitors represent the most significant source of transient population in the area. This is due to the presence of numerous scenic, cultural, and historic sites in the region. Recreation areas include Cibola National Forest, Bluewater State Park, Chaco Canyon National Monument, and El Malapais National Monument. In addition to this, several visitors tour the Mining Museum in Grants; and at times, people specifically drive to the Ambrosia Lake area along Highway 509 for a first hand glimpse at a uranium mine and mill. However, the Section 35 mining operation is situated approximately three miles east of Highway 509 on a locked private road, and therefore, not subject to any sightseers.

As a result of the Section 35 mining operation being located in an isolated and sparsely populated and travelled area, impacts to the surrounding local communities are minimal to non-existent and are anticipated to remain as such until the domestic uranium mining industry returns. However, resumption of the uranium industry within the Ambrosia Lake area depends upon national and international resource demand and federal and state government policy decisions.

NMSA 69-36-5.B.6

A description of wildlife and wildlife habitat at and surrounding the mining operation and an analysis of the mining operation's impact on that wildlife and wildlife habitat

WILDLIFE AND WILDLIFE HABITAT

Wildlife Habitat

Quivira Mining Company's Section 35 mining operation is located in the Great Basin Grasslands habitat and is characterized as an arid desert environment with the flora and fauna of the area being adapted to the dry desert conditions. Historically, these grasslands were dominated by sod-forming grasses such as blue grama, but grazing has caused a breakdown in the sod cover enhancing the establishment and growth of forbs and shrubs. Common species present in the area include narrow leaf goosefoot, alkali sacaton, galleta, and other annual herbs and grasses. Juniper and pinon pine are scattered among the sandstone outcrops in the northeast quadrant of the mining operation.

The grassland habitat is the principal wildlife habitat at and surrounding the mining operation. In addition, sandstone outcroppings at and in the vicinity of the mining operation provides some rocky slope/cliff habitat adjacent to the base of San Mateo Mesa.

Investigations involving plant species identification have been conducted in the region and in very close proximity (approximately 1 mile) to the Section 35 mining operation. Since conditions at the sites are very similar and have essentially remained unchanged, available data was used to complement field surveys. A list of flora observed or expected to occur at the mining operation appear in Appendix A.

Wildlife

As with the plant surveys, wildlife studies have been conducted in the region and in very close proximity (approximately 1 mile) to the Section 35 mining operation. Since wildlife conditions at the sites are very similar and have essentially remained unchanged, available data was used to complement field surveys.

Sixty three (63) species of wildlife are expected to occur in the grasslands habitat, while forty three (43) may be found in the rocky slope/cliff habitat. Big game is expected to be limited to an occasional elk and/or mule deer.

Appendix B contains details of wildlife expected to be present within the two identified habitats present at and surrounding the mining operation.

Threatened and Endangered Species

Consideration of Federal and state threatened and endangered species indicated that two species may occur at the site. The bald eagle (Haliaeetus leucocephalus) and the peregrine falcon (Falco peregrinus) do not nest or winter near the mining operation, but may occur as an occasional migrant. No black-footed ferrets have been observed or are expected to occur on or around the mining operation due to the lack of any prairie dog towns.

Should any threatened or endangered species be found to reside on the mining operation, the Director of the Mining and Minerals Division, New Mexico Department of Game and Fish, and the U.S. Fish and Wildlife Service will be contacted immediately.

Impacts

Wildlife habitat has been directly and indirectly impacted as a result of the Section 35 mining operation. Direct impacts include temporary destruction of habitat resulting from construction of mining facilities (buildings, storage areas, etc..) and construction and maintenance of roads. Temporary indirect impacts included fugitive dusting from the disturbed area and potential elevated noise levels when activities occur at the site. The grasslands habitat is the predominantly affected wildlife habitat, with a total of 84.61 acres having been ultimately disturbed by the mining operation. Pre-mining conditions were most likely very similar to the surrounding areas which are primarily utilized for grazing purposes and represent marginal wildlife habitat. No important habitat features for economically important species were recognized (if present at all) at the mining operation.

Site closure activities will remediate the direct and indirect impacts that are present at the site. Restoration typically includes measures such as recontouring, placement of growth medium, and revegetation; and will usually occur as soon as possible after completion of surface disturbing activities. Revegetation will result in eliminating excessive fugitive dusting from the disturbed areas. Noise impacts are currently at background levels due to no activity at the mining operation and will be expected to remain at background levels upon completion of site closure activities.

NMSA 69-36-5.B.7

A description of the design limits for each unit, including waste units, impoundments, and stockpiles and leach piles

DESIGN LIMITS

Quivira's Section 35 mining operation presently contains the following units:

- Plant site
- Ore/waste rock storage
- Mine water pond

A map identifying these units is contained in Figure 5.

Present Plant Site

The Section 35 mining operation plant site consists of the various surface equipment and structures utilized during mining. These include the surface buildings and facilities, headframe, ancillary equipment and equipment storage areas. This unit is depicted on Figure 5. (Note: Surface electrical facilities/structures, ventilation hole surface facilities, access roads, and gas, water, and electrical utilities are not included on Figure 5).

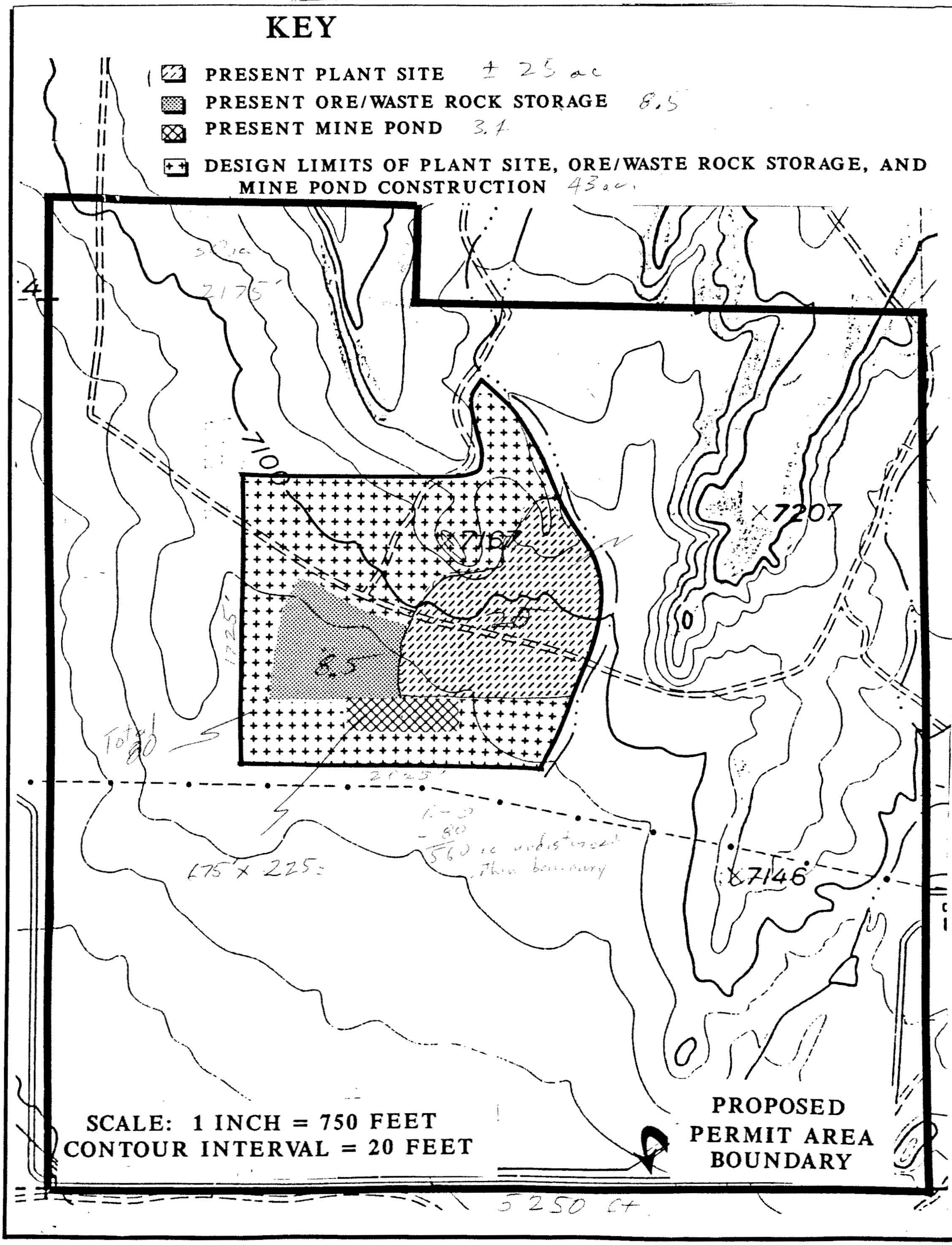
The present plant site currently encompasses approximately twenty five (25) acres, of which the majority of the area is associated with equipment storage.

Present Ore/Waste Rock Storage

This unit is comprised of a graded pad adjacent to the plant site and is used to temporarily store ore at the surface prior to transport to the milling facility located approximately four (4) miles west of the Section 35 mining operation. Figure 5 delineates the ore/waste rock storage area. The waste rock pile is intended to store any mined material brought to the surface whose grade is not sufficient for milling.

The present ore/waste rock storage unit currently comprises approximately fifteen (15) acres. It is anticipated that the majority of the ore/waste rock storage area will be utilized

FIGURE 5
SECTION 35 MINING OPERATION - PERMIT AREA



for ore storage, although ore transport schedules will probably control the quantity of ore present in storage at the mining operation at any time.

Present Mine Water Pond

When conventional mining is occurring, mine dewatering is required at the Section 35 mining operation. The water is pumped from underground into a mine water pond at the surface. The pond is located adjacent to the plant site and ore/waste rock storage area. Figure 5 outlines the area utilized for mine dewatering.

The constructed mine water pond is presently segregated into three (3) separate zones or collection points. This design allows for more efficient sediment removal. The western-most collection zone has the capability to pump water from the mine pond directly to the uranium processing mill located four (4) miles west of the mining operation and/or under New Mexico Environment Department Discharge Plan 67.

The overall dimensions of the mine pond, as constructed, is 660 feet by 180 feet and a maximum depth up to ten feet. Each of the three individual ponds measures approximately 220 feet by 180 feet.

Design Limits For Units

Figure 5 depicts the overall design limits of the three units described above. Quivira has delineated an area of approximately ninety (90) acres to incorporate the anticipated design limits of the plant site, ore/waste rock storage, and the mine water ponds. This will allow Quivira to control the use of these units as operations at the mine dictate.

Quivira has estimated the anticipated design limit for the plant site to be approximately 40 to 50 acres, the ore/waste rock storage unit to be approximately 30 to 40 acres, and the mine pond unit to include up to 10 acres.

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APPENDIX A

PLANTS EXPECTED TO OCCUR AT SITE

PLANTS EXPECTED TO OCCUR AT SITE

COMMON NAME	SCIENTIFIC NAME
Western wheatgrass	Agropyron smithii
Black sagebrush	Artemisia nova
Fourwing saltbush	Atriplex canescens
Blue grama	Bouteloua gracilis
Goosefoot	Chenopodium dessicatum
Rubber rabbitbrush	Chrysothamnus nauseosus
Green rabbitbrush	Chrysothamnus viscidiflorus
Rocky mountain beeplant	Cleome serrulata
Russian olive	Elaeagnus angustifolia
Snakeweed	Gutierrezia sarothrae
Ironplant goldenweed	Haplopappus spinulosus
Common sunflower	Helianthus annus
Galleta	Hilaria jamesii
Juniper pine	Juniperus sp.
White aster	Leucelene ericoides
Bush muhly	Muhlenbergia porteri
Plains prickly pear	Opuntia macrohiza
Whipple cholla	Opuntia whipplei
Indian ricegrass	Oryzopsis hymenoides
Pinon pine	Pinus edulis
Antelope bitterbrush	Purshia tridentata
Russian thistle	Salsola iberica
Greasewood	Sacrobatus vermiculatus
Bulrush	Scirpus pallidus
Tumble mustard	Sisymbrium altissimum
Bottlebrush squirreltail	Sitanion hystrix
James nightshade	Solanum jamesii
Scarlet globemallow	Sphaeralcea coccinea
Globemallow	Sphaeralcea parvifolia
Alkali sacaton	Sporobolus airoides
Spike dropseed	Sporobolus contractus
Sand dropseed	Sporobolus cryptandrus
Giant dropseed	Sporobolus giganteus
Feathergrass	Stipa neomexicana
Saltcedar	Tamarix pentandra
cattail	Typha sp.
Desert zinnia	Zinnia grandiflora
Plantain	Plantago purshii
Milkvetch	Astragalus sp.

PLANTS EXPECTED TO OCCUR AT SITE
(continued)

COMMON NAME	SCIENTIFIC NAME
Aster	Aster sp.
Saltbush	Atriplex obovata
Sixweek fescue	Festuca octoflora
Ring muhly	Muhlenbergia torreyi
Evening primrose	Oenothera albicaulis

APPENDIX B

WILDLIFE EXPECTED TO OCCUR AT SITE

AMPHIBIANS AND REPTILES
NESTING BIRDS
MAMMALS

AMPHIBIANS AND REPTILES EXPECTED TO OCCUR AT SITE

SPECIES	WILDLIFE HABITAT: GRASSLAND	WILDLIFE HABITAT: ROCKY SLOPES
Plains Spadefoot Toad Scaphiopus bombifrons	✓	
Western Spadefoot Toad Scaphiopus hammondi	✓	
Red-spotted Toad Bufo punctatus	✓	
Tiger salamander Ambystoma tigrinum	✓	
Lesser earless lizard Holbrookia maculata	✓	
Collared lizard Crotaphytus collaris		✓
Northern plateau lizard Sceloporus undulatus		✓
Sagebrush lizard Sceloporus graciosus	✓	✓
Side-blotched lizard Uta stansburiana		✓
Northern tree lizard Urosuarus ornatus		✓
Short-horned lizard Phrynosoma douglassi	✓	
Plateau whiptail Cnemidophorus velox	✓	
Desert striped whipsnake Masticophis taeniatus	✓	
Painted desert glossy snake Arizona elegans		✓
Gopher snake Pituophis melanoleucus	✓	✓
Prairie rattlesnake Crotalus viridis	✓	✓

NESTING BIRDS EXPECTED TO OCCUR AT SITE

SPECIES	WILDLIFE HABITAT: GRASSLAND	WILDLIFE HABITAT: ROCKY SLOPES
Sharp-shinned hawk Accipiter striatus		✓
Northern harrier Circus cyaneus	✓	
Red-tailed hawk Buteo jamaicensis		✓
Golden eagle Aquila chrysaetos		✓
Prairie falcon Falco mexicanus		✓
American kestrel Falco sparverius		✓
Great horned owl Bubo virginianus		✓
Scaled quail Callipepla squamata	✓	
Mourning dove Zenalda macroura	✓	
Roadrunner Geococcyx californianus	✓	
Common nighthawk Chordeiles minor	✓	
Black-chinned hummingbird Archilochus alexandri	✓	
Western kingbird Tyrannus verticalis	✓	
White-throated swift Aeronautes saxatalis		✓
Say's phoebe Sayornis saya	✓	✓
Pinon jay Gymnorhinus cyanocephalus	✓	✓

NESTING BIRDS EXPECTED TO OCCUR AT SITE

SPECIES	WILDLIFE HABITAT	
	GRASSLAND	ROCKY SLOPES
Cassin's kingbird *Tyrannus vociferans*		✓
Ash-throated flycatcher *Myiarchus cinerascens*	✓	
Common raven *Corvus corax*		✓
Plain titmouse *Parus inornatus*	✓	✓
Horned lark *Eremophila alpestris*	✓	
Cliff swallow *Hirundo pyrrhonota*	✓	
Rock wren *Salpinctes obsoletus*		✓
Mockingbird *Mimus polyglottos*	✓	
Sage thrasher *Oreoscoptes montanus*	✓	
Bendire's thrasher *Toxostoma bendirei*	✓	
Loggerhead shrike *Lanius ludovicianus*	✓	
Western meadowlark *Sturnella neglecta*	✓	
Brewer's blackbird *Euphagus cyancephalus*	✓	
Canyon wren *Catherpes mexicanus*		✓
Bewick's wren *Thryomanes bewickii*	✓	
House finch *Carpodacus mexicanus*	✓	

NESTING BIRDS EXPECTED TO OCCUR AT SITE

	WILDLIFE HABITAT	
SPECIES	GRASSLAND	ROCKY SLOPES
Green-tailed towhee Pipilo chlorurus	✓	
Brown towhee Pipilo fuscus	✓	
Lark sparrow Chondestes grammacus	✓	
Black-throated sparrow Amphispiza billneata	✓	
Sage sparrow Amphispiza belli	✓	
Chipping sparrow Spizella passerina	✓	
Brewer's sparrow Spizella breweri	✓	

MAMMALS EXPECTED TO OCCUR AT SITE

	WILDLIFE HABITAT	
SPECIES	**GRASSLAND**	**ROCKY SLOPES**
California myotis Myotis californicus		✓
Desert shrew Notiosorex crawfordi	✓	
Townsend's big-eared bat Plecotus townsendii		✓
Pallid bat Antrozous pallidus	✓	✓
Yuma myotis Myotis yumanensis	✓	
Desert cottontail Sylvilagus audubonii	✓	
Western pipistrelle Pipistrellus hesperus		✓
Black-tailed jackrabbit Lepus californicus	✓	
Spotted ground squirrel Spermophilus spilosoma	✓	
Plains pocket mouse Perognathus flavescens	✓	
White-tailed antelope squirrel Ammospermophilus leucurus	✓	✓
Botta's pocket gopher Thomomys bottae	✓	✓
Ord's kangaroo rat Dipodomys ordii	✓	
Canyon mouse Peromyscus crinitus		✓
Banner-tailed kangaroo rat Dipodomys spectabilis	✓	
Silky pocket mouse Perognathus flavus	✓	✓

MAMMALS EXPECTED TO OCCUR AT SITE

	WILDLIFE HABITAT	
SPECIES	**GRASSLAND**	**ROCKY SLOPES**
Pinon mouse Peromyscus truei		✓
Western harvest mouse Reinthrodontomys megalotis	✓	
Steven's woodrat Neotoma cinerea		✓
Deer mouse Peromyscus maniculatus	✓	✓
White-throated woodrat Neotoma albigula	✓	
Northern grasshopper mouse Oncyhomys leucogaster	✓	✓
Bushy-tailed woodrat Neotoma cinerea		✓
Coyote Canis latrans	✓	✓
Red fox Vulpes	✓	✓
Kit fox Vulpes macrotis	✓	✓
Badger Taxidea taxus	✓	
Spotted skunk Spilogale gracilis	✓	✓
Striped skunk Mephitis	✓	✓
Bobcat Felis rufus		✓
Mule deer Odocoileus hemionus	✓	✓
Elk Cervus elaphus	✓	✓